

The claim rejection under 35 USC 103(a) is untenable because the combination constructed by the Examiner is not the claimed invention. Thus, the invention could not have been obvious, even in hindsight.

In step 1 of the claimed light quantity correction method, the exposing device emits light in a plurality of light emission patterns and measures the quantity of light emitted from each light emitting element for each light emission pattern. In step 2, the method calculates the change rate in light quantity distribution¹ of the exposing device based on the light quantity measured for each light emission pattern. Then, in step 3, the method calculates a correction value of the light quantity for each light emitting element based on the light quantity measured in step 1 and the change rate in light quantity distribution calculated in step 2.

The Examiner interprets Yoshida as disclosing a light quantity correction method having a first step, in which the exposing device is allowed to emit light in a plurality of light emission patterns (referring to col. 8, lines 45-46, of Yoshida) and the light emitted from each light emitting element is measured for each light emission pattern (col. 8, lines 56-60). This interpretation is incorrect. Yoshida (col. 8, lines 45-46) discloses a plurality of *LED chips arranged in groups*, not a plurality of light emission patterns.² Similarly, Yoshida (col. 8, lines 56-60) discloses the wavelengths of the light emitted by the red, green and blue LED chips. Notwithstanding the above, the Examiner admits that Yoshida fails to teach the second step, in

¹ The phrase “change rate in light quantity distribution” means the difference in light quantity of the target light emitting element with all light emitting elements of the exposing device turned on and that of the target light emitting element with only the target light emitting element turned on. Alternatively, the phrase “change rate in light quantity distribution” means the ratio between the light quantity of the target light emitting element with all light emitting elements of the exposing device turned on and that of the target light emitting element with only the target light emitting element turned on.

² If the Examiner is assuming that the groups of Yoshida’s LEDs form a pattern of light emission, applicant points out that under such an interpretation the arrangement of Yoshida’s groups of LEDs would form a single light emission pattern, not the claimed plurality of light emission patterns.

which a change rate in light quantity distribution of the exposing device is calculated based on the light quantity measured for each light emission pattern.

The Examiner asserts Maekawara discloses applicant's steps 2 and 3, in which a change rate in light quantity distribution of the exposing device is calculated based on the light quantity measured for each light emission pattern (referring to col. 19, lines 55-67 and col. 20, lines 1-10, of Maekawara) and a correction value is subsequently determined based on steps 1 and 2. This interpretation is also incorrect. Maekawara (at col. 19, lines 55-67 and col. 20, lines 1-10) calculates a correction coefficient using plural LED arrays. This is not the claimed change rate in light quantity distribution. Similarly, although Maekawara (col. 8, lines 37-41) discloses choosing the number of groups of LEDs to cause lines of unevenness to be visually insensitive, the Examiner incorrectly interprets this as calculating a correction value for the light quantity emitted based on the light quantity measured in applicant's step 1 and the change rate of the light quantity distribution calculated in applicant's step 2.

The Examiner states, "It would have been obvious to one skilled in the art at the time of the invention to modify Yoshida with Maekawara et al. wherein the distribution of the led's [sic] would be implemented in the method preventing a miscalculation of the light quantity whereas depending upon the rate of the light would effect the calculated value assumed." Applicant respectfully disagrees. Maekawara (col. 19, lines 42-49) states that a microscope measures the position of each chip of a LED array, and the deviation value of the measured position of each chip from the reference is obtained. Maekawara (col. 20, lines 14-20) further states that it is preferable to conduct two out of the three interval correction steps at the time of shipping from the factory, followed by a light quantity correction – one that does not include the claimed change rate calculation - then the final step. Thus, Maekawara, even if combined with Yoshida, only discloses a light quantity correction method that involves testing and correcting LEDs one by one (Yoshida col. 10, lines 10-21) and includes an interval correction that reduces density

fluctuations caused by errors in the intervals of light emitting elements. That is not the claimed invention.

Even if the resulting combination suggested by the Examiner included all the claim limitations of claim 1, the cited references provide no evidence of a motivation to combine their disclosures so as to arrive at the claimed invention. Yoshida is directed to a method for correcting a quantity of emitted light by independently correcting the quantity of light from each of a plurality of blue, green, and red light emitting elements. A photo sensor detects the quantity of light from a single emitting LED chip, and, based on the detected value, the system corrects the quantity of light. It would have been unnecessary to include interval correction steps because the purpose of Yoshida is to correct the quantity of light based on a comparison of the actual light emitted from the LED chips of each of the detected colors with a quantity-of-light value predicted from a fixed correcting signal to adjust density and color balance, and further output a correction value to a controller. The image signal is corrected based on the correction value and each LED chip is turned on to create a proper light quantity. Adding interval correction steps would not add any value to the system of Yoshida. Thus, there would not have been any motivation to combine Yoshida and Maekawara as suggested by the Examiner.

As mentioned above, the Examiner states in the Action that persons of ordinary skill in the art would have been motivated by Maekawara to modify the method disclosed in Yoshida to arrive at the claimed invention. The Examiner's alleged motivation is so general in the context of the relevant art as to constitute no more than the reference to a general level of skill in the art found deficient in *In re Lee*, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002). Under *Lee*, the Examiner must present *specific* evidence of motivation, not the kind of generalized allegation of motivation relied on in the pending Action:

When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references

relied on as evidence of obviousness. *See, e.g., McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001) (“the central question is whether there is reason to combine [the] references,” a question of fact drawing on the *Graham* factors).

The burden imposed by *Lee* is not an impossible burden, as explained by the court in *In re Thrift*, 298 F.3d 1357, 1364-65, 63 USPQ2d 2002, 2007 (Fed. Cir. 2002), with respect to the references relied on by the Board in that case:

In the present case, the reasoning articulated by the Board is exactly the type of reasoning required by *In re Lee*. Both the examiner and the Board clearly identified a motivation to combine the references, stating that the skilled artisan would have “found it obvious to incorporate the speech input and speech recognition techniques taught by Schmandt into the expert system of Stefanopoulos in order to reduce the need for less user friendly manual keyboard and mouse click inputs.” Decision on Appeal at 5; accord Aug. 7, 1996 Office Action at 3. The motivation to combine the references is present in the text of each reference. The Schmandt reference itself verifies this motivation, stating that “allowing users to remain focused on the screen and keyboard, instead of fumbling for the mouse, would be beneficial in a workstation environment.” Schmandt at 51. Stefanopoulos itself, while not expressly disclosing the use of speech recognition, sets forth the motivation to combine the references, stating that “there are alternative means to select the buttons, including . . . voice-activated transfer means, which may be readily adapted for use with the present invention by those skilled in the art.” '237 patent, col. 4, ll. 34-38.

The reliance in the pending Action on the alleged routine skill in the art to make the suggested combination comes nowhere close to what *Lee* and *Thrift* require. It is not sufficient to say without evidentiary support, as the Examiner does in the pending Action, that “[i]t would have been obvious to one skilled in the art at the time of the invention to modify Yoshida with Maekawara et al. wherein the distribution of the led’s [sic] would be implemented in the method preventing a miscalculation of the light quantity whereas depending upon the rate of the light would effect the calculated value assumed.” First, the invention relates to providing a light quantity correction method when the actual printing is conducted, not to a method that includes factory measurements by microscope of the position of each chip in an LED array to determine

deviation values to be used later. Second, neither Yoshida nor Maekawara uses or suggests applicant's change rate calculating section.

Finally, the Examiner has pointed to no disclosure in Maekawara, the alleged evidence of such a motivation, that would have motivated a person of ordinary skill in the art to use its supposed interval correction in the claimed invention.³ Applicant's invention may be a straightforward and elegant solution to the problem it addresses, but the cited prior art is devoid of a suggestion to make it. Accordingly, the invention claimed is patentable over the prior art, and claim 1 should be allowed. This logic also disposes of claims 2-18 which depend directly or indirectly from claim 1. Additionally, for claims 5-6, 11-12 and 14-16, the Examiner recites portions of Yoshida, but omits attempting to combine Yoshida with any other reference and omits any analysis or conclusions.

Claim 22 is allowable because Yoshida does not disclose the subject matter of claim 19 (see 35 USC 102(b) discussion below), upon which claim 22 depends. Even if it did, the combination of Yoshida and Maekawara suggested by the Examiner is not the invention of claim 22. Rather than disclosing a further step where data read in step 2 is subjected to smoothing, Maekawara (col. 21, lines 35-42) discloses considerations used for setting spatial frequency. This is not the claimed invention.

Claim 29 is allowable because Yoshida does not disclose the subject matter of claim 23 (see 35 USC 102(b) discussion below), upon which claim 29 depends. Even if it did, the

³ Applicant recognizes that an Examiner cannot search prior art to use in examining a patent application without reading the application and its claims first. That much "hindsight" is permissible and expected in the examination process. However, that is as far as hindsight in the examination process can go. Once the Examiner finds prior art that appears to be relevant based on the limited amount of hindsight that is permissible, *Lee* and *Thrift* require the Examiner to point to *evidence* within the prior art *itself* as to why persons of ordinary skill in the art would have been motivated to combine the disclosures so as to arrive at the claimed invention. Applicant's position rests on the Examiner's failure to produce and rely on objective evidence of motivation in the prior art itself.

combination of Yoshida and Maekawara in claim 29 suggested by the Examiner is not the claimed invention. Rather than disclosing applicant's light quantity correction method, Maekawara (col. 19, lines 36-49) discloses the interval correction requiring measurement of the position of each chip in a LED array using a microscope. This is not the claimed invention. Furthermore, it is not sufficient to say without evidentiary support, as the Examiner does in the pending Action, that “[i]t would have been obvious to one skilled in the art at the time of the invention to modify Yoshida wherein the image data can be obtained from other devices providing light quantity correction for more than just a recorded whereas there may be a plural device in which LED's [sic] emits light and need proper correction. This gives the invention multiple possibilities and extended advancement.”

As to the rejections under 35 USC 102(b), Yoshida neither discloses nor suggests claim 19 for the reasons discussed above with respect to claim 1 and for the following reasons. First, the Examiner asserts Yoshida (col. 7, line 37-45) discloses step 1: emitting light to form an optical pattern. Here, however, Yoshida merely discloses the structure of the light source unit. Second, the Examiner asserts Yoshida (col. 7, lines 26-29) discloses reading the optical pattern formed in step 1. Here, however, Yoshida discloses a controller with a memory, not reading an optical pattern. The Examiner further asserts Yoshida (col. 7, lines 26-29 and col. 8, lines 29-36) discloses calculating a correction value based on the data read in step 2. Here, Yoshida discloses the previously mentioned controller and a photodiode for outputting a signal corresponding to a quantity of light from the light source portion in which light has been received (this is an *input* to Yoshida's light quantity correction unit, not a correction value as the Examiner asserts). Finally, the Examiner asserts Yoshida (table 1, col. 15, lines 9-32) discloses applicant's optical pattern constituted by a plurality of patterns having gradations different from each other. Here, however, Yoshida discloses the variation in the quantity of light represented by 256 gradations previously set so that the quantity of light is set for each gradation of each color. This is not the

claimed invention. This logic also disposes of claims 20-21 which depend directly or indirectly from claim 19.

Claim 23 is allowable for the following reasons. The Examiner asserts Yoshida (col. 8, lines 45-56) discloses the claimed exposing device with a plurality of light emitting elements. However, what Yoshida discloses here are LED chips that emit light in the colors of red, green and blue. That is not the claimed invention. Similarly, Yoshida (col. 9, lines 23-34) does not disclose applicant's image forming station. Here, Yoshida only discloses the arrangement of the red, green and blue LED chips. Yoshida (col. 4, lines 27-32) does not disclose the claimed reader, but instead discloses reading image data recorded on an optical disk or a floppy disk to expose onto a photosensitive material. That is not the claimed invention. Yoshida (col. 9, lines 37-44) does not disclose applicant's controller. Applicant's controller includes the change rate calculation section, which is absent in Yoshida. Finally, the Examiner asserts Yoshida (table 1, col. 15, lines 8-32) discloses applicant's optical pattern constituted by a plurality of patterns having gradations different from each other. Here, however, Yoshida discloses the variation in the quantity of light represented by 256 gradations previously set so that the quantity of light is set for each gradation of each color. This is not the claimed invention. This logic also disposes of claims 24-25 and 30 which depend directly or indirectly from claim 23.

Finally, the Examiner objected to claims 26-28 as being dependent upon a rejected base claim. However, in view of the above arguments, each of the claims in this application is in condition for allowance. Accordingly, applicant solicits early action in the form of a Notice of Allowance.

In the event that the transmittal letter is separated from this document and the Patent and Trademark Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge

the cost of such petitions and/or other fees due in connection with the filing of this document to
Deposit Account No. 03-1952 referencing Docket No. 325772021800.

Respectfully submitted,



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